

a few more algebra reminders

1. Find the domain. Write it in interval notation.

(a)

$$f(x) = \frac{2}{(x+2)(x-3)}$$

(b)

$$g(x) = \frac{x-1}{(x+2)(x-3)}$$

(c)

$$h(x) = x^2 + 3x + 2$$

(d)

$$j(x) = 5$$

(e)

$$k(x) = \sqrt{2-x}$$

(f)

$$l(x) = \frac{x}{\sqrt[3]{x-4}}$$

2. Let $f(x) = x^2 + 1$ and $g(x) = 2x + 3$. Find . . .

(a) $g \circ f$

(b) $f \circ g$

(c) $g \circ g$

(d) $f \circ f$

3. For the given function, find (and simplify)

(i) $f(x + h)$

(ii) $f(x + h) - f(x)$

(iii) $\frac{f(x + h) - f(x)}{h}$

(a) $f(x) = 3x + 7$

(b) $f(x) = x^2$

(c) $f(x) = \frac{1}{x + 3}$